



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number: CPS 3368/1
Permit Holder: Hamersley Iron Pty Ltd
Duration of Permit: 3 January 2010 – 3 December 2014

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of observation/production bores, access tracks and pipeline.

2. Land on which clearing is to be done

L3114/1277

L3116/6868

3. Area of Clearing

The Permit Holder must not clear more than 5.6 hectares of native vegetation within the area hatched yellow on attached Plan 3368/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities in accordance with Section 91 of the *Land Administration Act 1997 (WA)* (Lic 00799-1973_2_84) or any other written law.

6. Compliance with Assessment Sequence and Management Procedures

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

8. Weed control

- (a) When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
- (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the *term* of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

PART III - RECORD KEEPING AND REPORTING

9. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:
In relation to the clearing of native vegetation authorised under this Permit:

- (a) the species composition, structure and density of the cleared area;
- (b) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
- (c) the date that the area was cleared; and
- (d) the size of the area cleared (in hectares).

10. Reporting

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 9 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 3 September 2014, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(a) of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

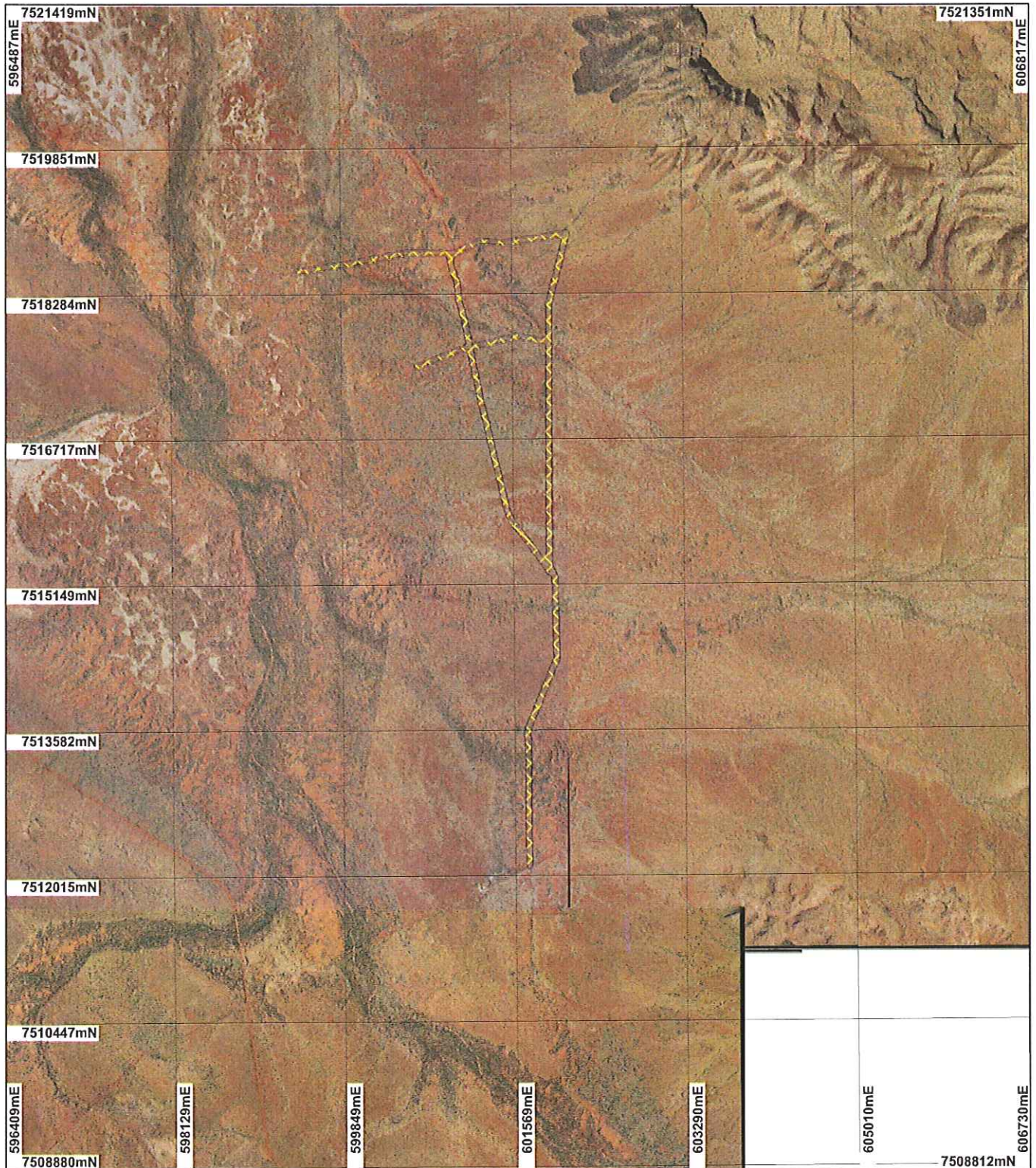


Keith Claymore
A/ ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

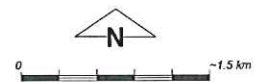
3 December 2009

Plan 3368/1



LEGEND

- Clearing Instruments**
- Areas Approved to Clear
 - Cadastre
- Mcrae 50cm Orthomosaic - Landgate 2004**
- Wittengoom 50cm Orthomosaic - Landgate 2004**
- Mount Lionel 50cm Orthomosaic - Landgate 2004**



Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Karl Claymore 3/12/09
Date

K Claymore
Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 3368/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Hamersley Iron Pty Ltd

1.3. Property details

Property: LOT 113 ON PLAN 238653 (MOUNT SHEILA 6751)
LOT 51 ON PLAN 241992 (MOUNT SHEILA 6751)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5.6		Mechanical Removal	constructing observation/production bores, access tracks and an above ground pipeline

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
There are two vegetation types that have been mapped as occurring within the applied area. These consist of two Beard vegetation associations: - Beard 18: Low woodland; mulga (<i>Acacia aneura</i>) - majority of clearing occurs within this association - Beard 175: Short bunch grassland - savanna/grass plain (Pilbara) (Shepherd et al. 2007).	The Southern Fortescue Borefield is a relatively low-lying area which has been extensively grazed with weeds present throughout the area. The vegetation ranges from degraded to very good (Keighery, 1994) condition (Biota, 2008a). The dominant vegetation unit recorded within the Southern Fortescue Borefield is <i>Acacia aneura</i> woodland. This is described as comprising a low open forest of <i>Acacia aneura</i> over a tussock grassland dominated by <i>Chrysopogon fallax</i> . Various other annual and perennial grasses were present, including <i>Aristida ingrate</i> , <i>A. obscura</i> , <i>Dactyloctenium radulans</i> , <i>Digitaria brownie</i> , <i>D. Ctenantha</i> , <i>Eragrostis cumingii</i> , <i>Eulalia aurea</i> , <i>Paspalidium constrictum</i> , <i>Perotis rara</i> , <i>Setaria dielsii</i> , <i>S. surgens</i> , <i>Sporobolus asutralasicus</i> and <i>Themeda triandra</i> . Herbs were also abundant and included <i>Aternanthera nana</i> , <i>Boerhavia repleta</i> , <i>Brachyscome ciliocarpa</i> , <i>Cleome viscosa</i> , <i>Commelina ensifolia</i> , <i>Euhoorbia biconvexa</i> , <i>Evolvulus alsinoids</i> var. <i>villosicalyx</i> , <i>Goodenia</i>	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The description and condition of the vegetation under application was determined via the use of aerial imagery and a flora and vegetation survey conducted by Biota (2008a).

muelleriana, Ipomoea muelleri, Mukia maderaspatana, Pterocaulon sphacelatum, Spermacoce brachystema and Wahlenbergia tumidiflora. Only scattered shrubs were present, including Ptilotus obovatus, Sida spp. and Solanum sturtianum. This vegetation was typically in very good to good condition, with usually scattered but occasionally dense patches of weeds (mainly Bidens biinnata, although species such as Echinochloa colona and Malvastrum americanum were also recorded) (Biota, 2008a).

As above	As above	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	As above
As above	As above	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	As above

3. Assessment of application against clearing principles

Comments

The purpose of the proposed clearing is for the Marandoo Reinjection Trial at the Southern Fortescue Borefield. The clearing of 5.6ha is to occur within an envelope of 87.8ha to allow for observation/production bores, access tracks and an above ground pipeline.

Given that the application area is within an area that has been identified as a future conservation reserve (the 2015 ex Hamersley Station Exclusion Zone), given this, ground disturbance should be minimised by utilizing existing track, cleared areas, raised blade clearing and avoiding off-road driving (DEC, 2009). Additionally, Karijini National Park is located 1.3km east of the application area and it is recommended that weed conditions be imposed on the permit to prevent the spread of weeds into this conservation area.

There were only two recorded fauna species of conservation significance within the local area (20km radius), the Western Pebble-mound mouse, Ngadji (*Pseudomys chapmani*) and the Northern Quoll (*Dasyurus hallucatus*). A fauna survey of the application area (and surrounding Marandoo area) was conducted by Biota (2008b) and recorded the two species listed above along with the Ghost bat (*Macroderma gigas*). The survey also sighted several other species which may occur within the applied area and surrounds, however it appears unlikely that the vegetation under application is significant habitat for local fauna species (Biota, 2008b), especially when considering the amount of surrounding vegetation and relatively small size of the application area, coupled with the habitat types actually impacted by the clearing being typical of the local area and well represented across the Pilbara (Biota, 2008b).

No rare or priority listed flora have been recorded within the applied area. A flora and vegetation survey also found no rare or priority flora within the Southern Fortescue Borefield location or surrounds, and it is considered unlikely for any to occur (Biota, 2008a).

There is one known record of Threatened Ecological Communities (TECs) within local area (20km radius) namely 'Themeda grasslands on cracking clays' located 4.3km west of the area under application. The application area did not appear representative of this TEC (Biota, 2008a).

All of the mapped Beard vegetation types (Shepherd 2007) are well represented, with the percentage of pre-European levels of vegetation remaining far exceeding the EPA supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

The local area is scattered with minor non-perennial watercourses. Several of these cross the application area at various points and the Fortescue River (Minor River, southern branch) runs through the northern section of the application area. Due to the minimal amount of clearing required, the impacts on these watercourses is not

expected to be significant. However, grazing has resulted in some minor erosion on some of the flow lines (Biota, 2008a); therefore this may be exacerbated by clearing and may impact on surface water quality in the short term.

Given the small size of the proposed clearing (5.6ha) which is to occur within a highly vegetated landscape (approximately 95 -100% remaining in local area), it is not considered likely that any significant environmental impacts will result.

Methodology

References:

Biota (2008a)

Biota (2008b)

DEC (2009)

EPA (2000)

Shepherd (2007)

GIS Databases:

- CALM Managed Lands and Waters - CALM 01/06/05

- Mount Lionel 50cm Orthomosaic - Landgate 2004

- Pre European Vegetation - DA 01/01

- SAC Biodatasets - accessed 14 September 09

- Soils, Statewide DA 11/99

- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005

- EPP Lakes Policy Area - DEP 14/05/97

- EPP, Wetlands 2004 (DRAFT) - EPA 21/7/04

- Hydrography linear - DOW 13/7/06

- Hydrography linear (hierarchy) - DoW 13/7/06

- Groundwater Salinity Statewide DoW 13/07/06

- Hydrogeology, statewide - DOW 13/07/06

- Hydrographic catchments, catchments - DoW 01/06/07

- Hydrography, linear - DOW 13/7/06

- Mean Annual Rainfall (30-09-2001)

- Salinity Risk LM 25m - DOLA 00

- Topographic contours statewide - DOLA and ARMY 12/09/02

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

Hamersley Iron has provided a copy of the licence pursuant to section 91 of the Land Administration Act 1997, for the proposed works within the Lots 113 & 51.

As required by the Native Title Act 1993 section 24KA, the Department of Environment and Conservation (DEC) notified native title claimants and representative bodies (Trim Ref: DOC103745 & DOC103746). No response has been received.

The applicant supplied a letter from the EPA providing consent under Section 43A of the Environmental Act 1986 for a change to the proposal to remove the construction of the dewatering pipeline from the scope of the proposal (Trim Ref: DOC100792). The EPA considers that the change is unlikely to significantly increase environmental impacts (Trim Ref: DOC100792).

The applicant has applied for a groundwater licence (26D). The issue of this licence is pending.

Methodology

4. Assessor's comments

Comment

The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986 and has found:

- Principles (f), (h) & (i) may be at variance
- Principle (e) is not at variance
- All other principles are not likely to be at variance

5. References

Biota Environmental Sciences (2008a) Marandoo Mine Phase 2 Project Vegetation and Flora Survey, prepared for Rio Tinto, August 2008. TRIM Ref: DOC100792

Biota Environmental Sciences (2008b) Marandoo Mine Phase 2 Seasonal Fauna Survey, prepared for Rio Tinto, August 2008. TRIM Ref: DOC100792

- DEC (2009) Pilbara Regional Advice for CPS 3263/1. Department of Environment and Conservation Trim Ref DOC98750
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)